

WHAT IS CLAIMED IS:

1. A circuit for processing multichannel audio signals, comprising:

5 a frequency characteristics correction device for  
correcting frequency characteristics of an audio signal of  
a channel comprising an audio signal component having a  
predetermined frequency band, of audio signals of a  
multichannel comprising at least a right channel and a left  
channel, in accordance with correction characteristics  
10 determined based on a head related transfer function; and  
an output device for mixing the audio signal component  
having the frequency characteristics corrected with an audio  
signal of the right channel and an audio signal of the left  
channel to generate mixed output audio signals, and  
15 outputting said mixed output audio signals as a right channel  
output audio signal and a left channel output audio signal.

2. The circuit as claimed in Claim 1, further comprising:

20 a signal extracting device for extracting the audio  
signal component having said predetermined frequency band  
from the audio signal having the frequency characteristics  
corrected by said frequency characteristics correction  
device, said output device mixing the audio signal component  
25 as extracted, having the predetermined frequency band with  
the audio signal of said right channel and the audio signal  
of said left channel to generate mixed output audio signals,  
and outputting said mixed output audio signals as a right

channel output audio signal and a left channel output audio signal.

3. The circuit as claimed in Claim 2, further comprising:  
a device for extracting an audio signal component having

5 other frequency band than said predetermined frequency band  
from the audio signal having the frequency characteristics  
as corrected to generate an extracted audio signal, and  
outputting said extracted audio signal as a central channel  
output audio signal.

10 4. The circuit as claimed in Claim 1, further comprising:  
a device for mixing the audio signal of said right  
channel with the audio signal of said left channel to generate  
a mixed input audio signal, said frequency characteristics  
correction device correcting frequency characteristics of  
15 said mixed input audio signal.

5. The circuit as claimed in Claim 1, wherein:  
the audio signals of said multichannel comprise an audio  
signal of a central channel, said frequency characteristics  
correction device correcting frequency characteristics of  
20 the audio signal of said central channel.

6. The circuit as claimed in Claim 1, wherein:  
said correction characteristics are determined based  
on a ratio of the head related transfer function for a sound,  
which is propagated in a straight direction to a front side  
25 of an audience, to the head related transfer function for

a sound, which is propagated to the audience in a direction deviating rightward or leftward from said straight direction by a predetermined angle.

7. The circuit as claimed in Claim 1, wherein:

5 said predetermined frequency band comprises frequency bands corresponding to a human voice.

8. An apparatus for reproducing multichannel audio signals, comprising:

10 a decoder for decoding input audio stream data to generate audio signals of a multichannel; and

15 a circuit for processing multichannel audio signals, said circuit comprising (i) a frequency characteristics correction device for correcting frequency characteristics of an audio signal of a channel comprising an audio signal component having a predetermined frequency band, of audio signals of a multichannel comprising at least a right channel and a left channel, in accordance with correction characteristics determined based on a head related transfer function; and (ii) an output device for mixing the audio 20 signal having the frequency characteristics corrected with an audio signal of the right channel and an audio signal of the left channel to generate mixed output audio signals, and outputting said mixed output audio signals as a right channel output audio signal and a left channel output audio 25 signal.

9. A program for reproducing multichannel audio signals, which is to be executed by a computer, to cause the computer to function as:

5        a frequency characteristics correction device for  
correcting frequency characteristics of an audio signal of  
a channel comprising an audio signal component having a  
predetermined frequency band, of audio signals of a  
multichannel comprising at least a right channel and a left  
channel, in accordance with correction characteristics  
10      determined based on a head related transfer function; and

15      an output device for mixing the audio signal having  
the frequency characteristics corrected with an audio signal  
of the right channel and an audio signal of the left channel  
to generate mixed output audio signals, and outputting said  
mixed output audio signals as a right channel output audio  
signal and a left channel output audio signal.